

Hoffman, Leonard & Co. N.Y.

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THE NEW-YORK
GAS REGULATOR COMPANY.

DESCRIPTION
OF THE
PATENT GAS REGULATOR,
ITS USES AND ADVANTAGES,
WITH
REPORTS OF EXPERIMENTS
MADE WITH THE REGULATOR,
AND
CERTIFICATES FROM PARTIES USING IT.

OFFICE OF THE COMPANY,
NO. 262 BROADWAY, NEW-YORK.

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DESCRIPTION
OF THE
GAS REGULATOR.

“THE NEW-YORK GAS REGULATOR COMPANY,”

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INCORPORATED

ON THE 2D DAY OF FEBRUARY, 1853, UNDER THE GENERAL
ACT OF THE STATE OF NEW-YORK.

This Company is incorporated under the general manufacturing laws of the State of New York, for the manufacture and sale of Dr. KIDDER'S PATENT GAS REGULATOR.

In order to insure the delivery of gas at a sufficient pressure to consumers, it is necessarily delivered to them at a higher pressure than is consistent with economy. In addition to this, the street pressure is constantly varying during the evening and night, as it is affected by the opening and closing of the shops, theatres, and different public places.

The average street pressure is about one and a half inches of water and it is an ascertained fact, that the most economical pressure at which the gas of the New-York Companies should be burnt, is a pressure of half an inch ; and under a pressure of half an inch, three feet of gas will give as much light and burn as long, as four feet of gas at a pressure of one and a half inches.

Some means therefore have long been sought for, which shall accurately regulate the pressure at which gas is delivered to each consumer—and until DR. KIDDER's invention, this end has never been attained.

By applying one of DR. KIDDER's Regulators at each house or place where gas is consumed, the pressure at which it is delivered, may be adjusted to supply the gas at any desired pressure less than that of the street—and when once adjusted, the Regulator will continue to supply the gas at that pressure, uniformly, without requiring further care or attention, and independent of all the fluctuations of the street pressure. And if the Regulator is adjusted at a pressure of one half an inch, the consumer will have the same light, of a more agreeable quality, and consume twenty-five per cent. less gas than he would consume without the Regulator, and under the average street pressure of one and a half inches.

The disagreeable effect of gas upon the complexion is almost entirely obviated by the use of the Regulator; the bluish white color of the ordinary gas-light occasioned by the high pressure at which the gas is consumed, is changed by the use of the Regulator to a soft mellow light, like that of a wax candle.

The unhealthy consequences resulting from the escape of unconsumed gas are also remedied by the Regulator.

Patents covering the invention were issued in the month of October, 1852, and since that time the Regulator has been thoroughly and practically tested, having been in use in many of the largest buildings in the city, giving entire satisfaction.

The Regulator is small, simple, easily applied, when once adjusted requires no further attention, and by a simple change of weight, the pressure it desired by the consumer, may be increased or diminished in a moment—and in its action it is entirely independent of the number of burners it supplies. The Regulator has been submitted to a most thorough and rigorous examination, by a number of scientific and competent judges, who made upwards of two hundred and seventy experiments with it. The result of their experiments appears in the certificates and reports hereto annexed. A few certificates of parties who have purchased the Regulator and tested it by actual use, are also annexed.

The Gas Companies of the City knowing that it is for their interest that the consumer should be supplied at as low a rate as possible—as thereby the total consumption will be increased and everybody be induced to use gas, will view with approbation the introduction of DR. KIDDER's Regulator; and it is believed that within a very short time every new consumer of gas will be as sure to order a Regulator, as he now is to receive a metre on commencing to use gas.

The following are the prices of the Regulator :—For a Regulator			
controlling twenty-five burners, or any less number,			\$11.00
For between twenty-five and thirty burners,	-	-	10.00
“ “ thirty and thirty-five burners,	-	-	9.00
“ “ thirty-five and forty burners,	-	-	8.00

When there are over forty burners supplied, the price will be the subject of a special agreement, depending on the amount of gas consumed.

There will also be a small charge for fitting up the Regulator, never, however, exceeding two dollars. This charge is made necessary from the fact that metres are too often placed in the most inconvenient positions, making it impossible to apply the Regulator except at an expense, that should not fall upon the Company, or be taken from the price of the machine.

Applications for the Regulator received at the Office of the Company, No. 262 Broadway.

S. T. CLARKE, Secretary.

JULY, 1853.

The above scale of prices is for private consumers only. Hotels, Factories, and other large consumers, are supplied by special contract.

CERTIFICATES.



Report of Professors Torrey, Ellett and Gibbs.

NEW-YORK, Oct. 22d, 1852.

We the undersigned, have made numerous experiments upon the Gas Regulator of Dr. Walter Kidder, with the best instrumental means, and under circumstances the most favorable to test the practical working of it, and have been much gratified with the results obtained. We find them capable of regulating with great precision, the pressure of the gas which supplies the burners, and of keeping it absolutely uniform at any determined point below that exerted by the gas as delivered from the streets. The introduction of this instrument, even if it were attended with no other advantage, would be most beneficial in producing a uniform consumption, instead of the variable one which has hitherto been a source of inconvenience and loss to the consumer.

But in another point of view, the economical value of this instrument to the gas consumer is most striking. In consequence of the great length of mains connected with any extensive gas establishment, it is necessary for the purpose of insuring a sufficient supply, to remote consumers, to employ a force which delivers it at a much greater pressure than is advantageous for its economical consumption.

We have satisfied ourselves by many trials, that as a general rule, three cubic feet of gas burned at the pressure of five-tenths of an inch, will burn as long a time, and give a quantity of light equal to that of four cubic feet burned at a pressure of one-and-five-tenth inches, which is a fair average pressure for street delivery; and as a general result, the employment of a lower pressure than that

at which the gas is delivered to the consumer will produce a great saving to him.

This saving is secured by the Gas Regulator of Dr. Kidder.

JOHN TORREY,

Prof. of Chemistry, College of Physicians and Surgeons.

WILLIAM H. ELLETT,

Professor of Chemistry, &c.

WOLCOTT GIBBS,

Prof. of Chemistry and Physics in the Free Academy.

Letter from Horatio Allen, Esq., of the Novelty Works.

Having been present at the trials of Kidder's "Gas Regulator or Economizer," I can state in reply to your enquiries, that they were made with great care, and in a manner to present fully the practical working of the instrument, and that they established beyond question,

1. That the Regulator can be readily adjusted to furnish gas of any desired pressure less than that of the street gas.

2. That when adjusted for most desired pressures, the Regulator will continue to furnish gas of that pressure uniformly, whatever may be the fluctuations in the pressure of the street gas.

3. That when the Regulator is adjusted to furnish gas of *half an inch pressure* a suitable burner will give a light equal to that given by a burner supplied with street gas at *one and a half inches pressure*, and that the consumption of gas from the Regulator will be 3 cubic feet, while that from the street during the same time will be 4 cubic feet.

4. That the light from the Regulator burner is more agreeable in color, and less injurious to the eyes, than that from the street burner.

Yours, respectfully,

October 23, 1852.

HORATIO ALLEN.

MANHATTAN GAS WORKS, Oct. 23, 1852.

DEAR SIR: Enclosed I send you a certificate setting forth as briefly as I can the advantages of Dr. Kidder's admirable invention. I do

not think it necessary to mention any experiments I may have made; Drs. Ellett, Torrey and Gibbs have a book full to be produced when needed. I will add here, however, to be used if you desire it, the result of an experiment made at these Works, and which can be repeated whenever desired.

With a street pressure of four and a half inches of water, and one burner near the governor, the pressure of the burner gauge was seven-tenths. The governor remaining untouched, the number of lights was increased to 54 extending over a surface of several hundred feet, and the street pressure was reduced to two inches, and the pressure gauge at the governor remained, as before, seven-tenths.

Respectfully your ob't serv't,

CHARLES ROOME.

MANHATTAN GAS WORKS, Oct. 23, 1852.

The Gas Regulator of Dr. Kidder is, in my opinion, the most valuable instrument for regulating the flow of gas to the burners that I have ever seen.

It is correct in principle, and will accomplish admirably the objects for which it was designed.

It will insure great steadiness in the lights, and as the pressure at the meter is, by this instrument, reduced considerably below that on the street mains, it will enable the consumer to gain an equal amount of light at a smaller expenditure for gas; for the less the pressure under which the gas is consumed, the greater is the amount of light obtained.

CHARLES ROOME,

Engineer M. Gas Light Co.

WE have KIDDER'S Gas Regulator, and are satisfied that, while it regulates the burning of gas, it saves in expense more than twenty-five per cent.

ALEX. T. STEWART & CO.

NEW-YORK, *March*, 1853.

WE have used KIDDER's Gas Regulator for some months, and find that it accomplishes perfectly the ends for which it was designed: it supplies the Gas at a regular uniform pressure, independent of the number of burners and the variations of the street pressure. The light from the Regulator is equal to that from the street burner—steady and agreeable; and, in point of economy, we save by it at least twenty-five per cent. on the quantity of gas consumed.

As it must come into very general use, we cheerfully recommend it to the public.

(Signed) TIFFANY, YOUNG & ELLIS.

(Signed) BALL, BLACK & Co.

(Signed) SMITH & KNAPP, 254 *Broadway*!

MARCH, 1853.

ASTOR HOUSE, NOV. 1, 1852.

We have had Dr. Walter Kidder's Gas Regulator in use at the Astor House, for several months past. We have three Regulators attached to as many metres, (one to each,) and they supply about 280 burners. The Regulators operate finely: they perfectly regulate the burning of the gas, and with as good a light, save us a handsome per centage upon our bills of consumption, say about fifteen dollars a week, which is equal to twenty-five per cent. on our gas bills.

We consequently feel very great confidence in the success of the Regulator.

COLEMAN & STETSON.

Certificate of the Metropolitan Hotel.

We are using "KIDDER'S GAS REGULATOR" in the Metropolitan Hotel with entire success. Before their introduction, we found it quite impossible to control the pressure at a uniform gauge, as the great length of pipes, and the large number of burners, were entirely beyond our control without the use of some other agent. Now, however, we find our lights to burn with perfect precision, never varying, giving a clear, steady, still light, even when any number of burners are suddenly extinguished, we notice no change whatever. And, in regard to the consumption of gas, (being much the largest consumers in the United States,) they save us more than twenty-five per cent. We

cheerfully recommend them as invaluable, and, in fact, believe no consumer can do without them.

SIMEON LELAND & CO., *Metropolitan Hotel*.

April 8th, 1853.

In addition to the above Hotels whose Certificates are given at length, the Company refer to the Proprietors of the following Hotels, where the Regulator is in use :

IRVING HOUSE, *Broadway*,
 COLLAMORE HOUSE, *Broadway*,
 NEW-YORK HOTEL, *Broadway*,
 UNION PLACE HOTEL,
 CLARENDON HOTEL,
 DELMONICO'S,
 CARLTON HOUSE, *Broadway*,
 BROADWAY HOUSE,
 UNION HOTEL, *Broadway*,
 FRENCH'S HOTEL,
 MERCHANTS HOTEL,
 JUDSON'S HOTEL.

NEW-YORK AND ERIE RAILROAD,
 NEW-YORK AND HARLEM RAILROAD,
 NEW-YORK AND NEW-HAVEN RAILROAD.

NOTICES OF THE PRESS.

THE following notices from the Press of this City are merely recitals of the experience of those who have tested fully the value of the Regulator. More might be added, were they needed after such as these :

From the Courier and Enquirer.

A Gas Regulator.

For some months past we have had the advantage of using a Gas Regulator, which has now been sufficiently tested to enable us to speak with entire confidence as to its qualities. It has always been found that the pressure upon our burners has considerably increased about 10 o'clock in the evening, when many stores and places of amusement have shut off the gas, and it has required the attention of a careful person to go through the fifty or sixty lights we have in use, and control the escape of gas by the stop cocks. In the course of another hour—say about 11 o'clock—the pressure would be so much increased by the closing of other establishments, as to render it necessary again to regulate the escape. Since we have had in use the Regulator invented by DR. KIDDER, we have experienced none of this difficulty, but at all hours the gas has burned uniformly, without smoking or waste. But this is not the chief advantage:—it is the actual *saving* effected by this Regulator which is its principal merit. In our establishment we have ascertained this by actual measurement to amount to seventeen per cent. We are situated remote from the Gas Works and upon low ground and the street pressure is consequently less than in many other sections of the city, and for that reason the percentage is less than has been shown elsewhere. But we are content to obtain a better and more uniform light at a saving of seventeen per cent., and most heartily recommend the Regulator to all who use gas. The machine is simple and not expensive; and may be seen in operation at the office of the Company in Centre street, corner of Canal street.

To this the New-York Commercial Advertiser add the following:

WE most cheerfully add our commendation to the above, and recommend the use of the Regulator, on the ground of comfort and economy, not alone in large offices and stores, but in private dwellings where gas is constantly used. For this purpose we have ourselves tried it, and find that we obtain a softer, pleasanter light, with less consumption of gas, and without any trouble of personal attention to the uniformity of supply. The Regulator does that work and does it effectually. In large establishments—such as the Astor House, the Metropolitan Hotel, and the

Metropolitan Hall,—the Regulator is found to be invaluable. It can be affixed near the metre, at small cost, cannot get out of order, and is altogether one of the most useful and practical inventions of the age.

From the New York Daily Times.

Gas Regulator.

Gas is so universally burned in this City, that everything tending to promote economy in its use is of public interest. We have examined and tested with some care KIDDER's Gas Regulator, an invention designed to *regulate the pressure* at which gas shall be burned by each consumer. It is known, of course, that gas is forced through the tubes by pressure, applied at the works; and that the greater the pressure, the more gas consumed—and that, too, without any corresponding increase of light. A very high degree of pressure at the works is necessary in order to meet the requirements of the street burners, hotels, &c., &c. throughout the City; and every one who uses gas at all must use it under that pressure, and, of course, at a great waste of gas. KIDDER's Regulator is a simple mechanical contrivance, by which each consumer may regulate the pressure at which he desires to burn the gas, so as to give precisely the amount he wishes to burn and no more. And when it is once thus adjusted, it preserves the same pressure without any further attention.

The invention seems to us one of the greatest utility. From various trials we have made with it, we are convinced that it saves fully *twenty-five per cent.* of the gas consumed, and that it gives also a better, softer, and more equable light. Professors TORREY, GIBBS, ELLETT, and others, have certified to its excellence, and a number of persons who have used it, have also testified to the economy and other advantages which they have derived from it. We are thoroughly convinced it is an invention worthy of general attention, and calculated to prove universally and decidedly useful.

From the Evening Post.

New Gas Regulator.

A. W. KIDDER has invented a very curious and yet simple machine for regulating the supply of gas to the burners, by which a very important saving in this article may be made with very little trouble. Under the full pressure, which, without any artificial restraint, drives the gas into the burners, a very large amount passes through without combustion, and of course is wasted. Innumerable experiments have been made to remedy this evil, without success, until Dr. Kidder hit upon the device which now bears his name.

It has been tried in several public edifices and private dwellings in this city, and has proved eminently satisfactory. The proprietors of the Astor House, the Metropolitan Hotel and the Metropolitan Hall use it, and say that they have found that it saves them full twenty-five per cent. Stewart is about introducing it into his famous dry goods establishment.

We have seen the Regulator in operation at the office of the company, in Centre-street, corner of Canal, and a very few minutes' observation satisfied us that twenty-five cents upon every dollar's worth of gas consumed, was a very moderate estimate of the saving which it insured. It is very simple, not costly, and should be procured at once by every gas-

consumer, however inconsiderable may be the amount of his annual consumption. Let those who have a particle of doubt upon the subject step in at the rooms of the company, and witness the tests by which they prove its advantages.

From the Express.

Kidder's Gas Regulator.

THIS invention just brought to the notice of the public, is worthy the attention of that large class of people, who, by their monthly gas bills, are taught the cost of this great necessity,—artificial light. The cost being nearly equal, no one will hesitate between the use of gas and the dangerous compounds of alcohol and turpentine, or the equally obnoxious mixtures sold as oil. Consequently the inventor of a machine, which will economise the use of gas, may be regarded as a public benefactor, inasmuch as he places an article of high cost at the command of those of moderate means. This has been done by Professor Kidder, who, by his very simple machinery, controls the flow of gas at the point of its most economical combustion, and checks the waste caused by the pressure from the Gas Works *equal to thirty per cent. beyond the amount required by the consumer*, thus saving the consumer annually a like per centage. The enormous pressure which all have noticed who use gas, is, we need not say, inevitable. Without an excessive pressure, remote consumers would fail to receive a sufficient quantity; and to give to all enough, an excess is given every where. The surplus passed through the burners is paid for by consumers, to the benefit of the manufacturers solely—a state of things now brought to a close, by all who choose to avail themselves of the principles of the Regulator.

The machine being arranged at a given pressure below that of the street, each burner is supplied with the desired quantity, no matter whether one or a thousand are in use, the apparatus adapting itself to the demands of the burner. When, as is often the case, the street pressure falls below the standard of the Regulator, it ceases to act, and consumers receive the undiminished flow from the street, the Regulator returning to its duty, upon the increase of the pressure. The machine has the testimonials of the Engineer of the Manhattan Gas Works, of Prof. GIBBS, TORREY & ELLETT, of HORATIO ALLEN, the Astor House, Metropolitan Hall, &c., &c. It has also been in use at various newspaper offices (which by the way, are among the largest consumers of gas) and among the rest, at the Express office, where its operation has been equal to the anticipations of its inventor, and equally satisfactory and economical to ourselves.

From the Golden Rule.

New Light.

THE invention of Professor KIDDER, now in successful operation at the leading hotels of New York, is one of the most valuable instruments we have ever witnessed in operation, and we have no hesitation in recommending it fully to all consumers of gas—not only as the means of cheapening this best of lights—but because it also improves the quality of the flame, producing, instead of the sepulchral glare of gas burning at high pressure, a milder and steady flame, resembling closely the agreeable

light from wax or pure sperm candles. No lady who has gazed at the faces of her friends under the glare of gas, marked their ghastliness and then contrasted their appearance under the mellow radiance of a wax light, needs to be told what we mean, when we say that Professor Kidder has accomplished a great desideratum, and restored to them the complexion bestowed by nature. The Regulator acts with unerring regularity upon one or one thousand lights, and after the initiatory regulation, is self-acting and indestructible.

It is known to all consumers, that the Gas Companies, in order to secure a full supply, are obliged to create at the works a pressure that shall in the most remote localities deliver the gas at a pressure exceeding the economical consumption. This action of the works forces upon the majority of burners an excessive and costly supply, which can only be avoided by turning off at the burners, or at the stop-cock upon the main pipe, requiring constant care, and after all having only partial effect. Any rate of pressure *under* the street pressure, can be given by the Regulator. Sixteenths of an inch pressure being the economical point, the Regulator is to be arranged for this rate. Upon lighting a single burner, enough is allowed to pass for its supply; but upon lighting ninety-nine more, the machine simply adapts itself to the demand made by the increased number, and as readily recedes when the surplus burners are shut off. In short, the demand from the interior of one's house, regulates the supply. When from any cause the pressure from the street is *below* the pressure at which the Regulator is set, the supply is not at all affected, the Regulator ceasing to act the moment the pressure falls under the desired supply. The improvement the machine makes in the light, will recommend it to many, but its economy will, after all, be the means of bringing it into universal use, for the actual experience of months has demonstrated that a better light can be had from seventy-five feet of gas with the Regulator than from an hundred without. Its merits are appreciated by the most eminent engineers of gas works, by the Astor House, the Metropolitan, French's Hotel, A. T. Stewart & Co., and others of less note. The invention is one of the greatest of blessings, next to sight, that can be given to one using artificial light, inasmuch as it cheapens and improves gas light, the best of known substitutes for sun light.

From the Day Book.

New York Gas Regulator Company.

Solomon said there was "nothing new under the sun," but we have amongst us at present a decided novelty in its discovery as well as a great benefit to the community, in KIDDER's Gas Regulator. Just imagine that a saving of full twenty to thirty per cent. is effected by this invention, without any diminution of light—and who will deny that a great boon is presented to all the consumers of gas? The average street pressure is about one inch and a half, and it is fully ascertained that the most economical pressure should be half an inch; and under a pressure of half an inch, three feet of gas will give as much light and burn as long as four feet of gas at a pressure of an inch and a half. This long sought for discovery has never been accurately regulated until Dr. KIDDER's invention. By this Regulator the blueish white color of the gas is changed to a soft, mellow light, like that of a wax candle. It is small, simple and easily ap-

plied, requiring no further attention when once adjusted; and by a simple change of weight, the pressure (if desired) may be increased or diminished in a moment—and in its action it is entirely independent of the number of burners it supplies. When such names as Professors TORREY, ELLET, GIBBS, &c., speak in the highest terms of commendation, and our principal hotels and places of amusement adopt it, further comment may be considered unnecessary.

From the Economist and Dry Goods Reporter.

Gas Regulator.

* * * These are admirable instruments, and the gas consuming community will find great benefit from their adoption. The instrument, about the size of an ordinary tin drinking cup, is of a most ingenious construction, and is attached to the gas pipe immediately above the metre, receiving the gas from it and delivering it through a valve which is balanced in quicksilver, and is acted upon by the gas. When the street pressure forces the gas through the valves no faster than the burners can consume the whole of it, the valve remains open; but an increase of the pressure causes a corresponding reaction in the tube above the valve, which depresses and checks the delivery. The nicety with which this operates is truly wonderful, causing the flame from the burners to remain clear and steady, consuming all the gas emitted, and affording a saving of about 25 per cent. in the quantity with the same degree of light.

From the Sunday Atlas.

Gas Regulator.

All who have tried the new invention of Doctor Kidder, regulating the pressure of gas upon the pipes which supply the burners, unite in the declaration that it saves full *twenty-five per cent* in their gas bills, from the New York Companies. Although we have not yet applied one of these gas Regulators or money savers to our fixtures, we are fully persuaded that the invention is capable of all that its proprietors claim for it, and have accordingly ordered one for our office, of which we shall speak when it goes into operation. It has been applied in all our principal Hotels, and in several Newspaper establishments and Manufactories, where a large amount of gas is used, and all agree that while its application saves a quarter part of the gas they previously used, no diminution of light is perceptible. It can be adjusted so as to deliver to the burners exactly what they consume and no more, and this is just what the gas consumers have been looking for. It is a simple contrivance which can be affixed with little trouble to any metre at a small expense, and is not liable to get out of order. It exercises absolute control over the flow of gas into the pipes from the metre, and saves all the waste that consumers have been in the habit of paying for, caused by the excessive pressure from the street. The office of the Company for the manufacture and sale of this invaluable invention, is at the corner of Canal and Centre streets, where those interested in reducing their bills, and paying for no more gas than they consume, will do well to call and make the necessary arrangements to avail themselves of the immense advantage of Professor Kidder's patent.

From the New-York Daily Tribune.

KIDDER'S GAS REGULATOR is the name given to an ingenious machine recently invented by Prof. A. W. Kidder, intended to regulate the flow of the gas to the burners. The gas is driven through the various mains and tubes by means of pressure applied at the works, and in order that all the consumers in the City may receive a supply, the pressure is necessarily high. When a part of the lights are extinguished the pressure increases on those still burning, so that a large portion of the gas escapes unburnt, and is, of course, wasted. The Regulator remedies this difficulty. The instrument is attached to the gas pipe just above the meter, and may be adjusted so as to furnish the gas at any required pressure below that in the street, and when so adjusted affords a steady, uniform light, which is entirely uninfluenced by the fluctuations of the street pressure, caused by the opening and closing of shops and public places. The invention has been tried in a large number of stores and public edifices, and as far as we can learn has proved eminently successful. We have had the instrument in use at our establishment for several weeks, while our lights are entirely satisfactory, we find by actual experiment that we are burning 25 per cent less gas than formerly.
